

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An integrated circuit comprising:
a semiconductor substrate;
an epitaxial layer coupled to the substrate, the ~~oxide~~ epitaxial layer having
been coupled to the substrate via a transfer process comprising:
doping the epitaxial layer with a first quantity of a first ionic material and a
second quantity of a second ionic material;
annealing the epitaxial layer and semiconductor substrate at a first
annealing temperature.
2. (Original) The integrated circuit of claim 1 wherein the sum of the first quantity of
the first ionic material and the second quantity of the second ionic material is no greater
than approximately $2 \times 10^{16} \text{ cm}^{-2}$.
3. (Original) The integrated circuit of claim 1 wherein the first annealing temperature
is between approximately 439 degrees C and approximately 451 degrees C.
4. (Original) The integrated circuit of claim 1 wherein the first annealing temperature
is between approximately 419 degrees C and approximately 430 degrees C.

5. (Original) The integrated circuit of claim 4 wherein the process further comprises mechanically separating a donor wafer, comprising the epitaxial layer, from a handle wafer, comprising the semiconductor substrate.

6. (Original) The integrated circuit of claim 2 wherein the second ionic material comprises hydrogen ions to react with the epitaxial layer at an energy level of approximately 40 KeV.

7. (Original) The integrated circuit of claim 6 wherein the first ionic material comprises helium ions to react with the epitaxial layer at an energy level of approximately 50 KeV.

8. (Original) The integrated circuit of claim 7 wherein the first quantity of helium ions is approximately $1 \times 10^{16} \text{ cm}^{-2}$ and the second quantity of hydrogen ions is approximately $1 \times 10^{16} \text{ cm}^{-2}$.

9.-26. (Canceled)

27. (Original) An apparatus comprising:

first means for creating voids in an oxide layer, the first means comprising a first quantity of a first type of ions;

second means for expanding the voids comprising a second quantity of a second type of ions;

third means for annealing the voids.

28. (Original) The apparatus of claim 27 wherein the first type of ions is chosen from ions of a group of elements consisting of argon, neon, xenon, nitrogen, hydrogen, and helium.

29. (Original) The apparatus of claim 27 wherein the second type of ions is chosen from ions of a group of elements consisting of argon, neon, xenon, nitrogen, hydrogen, and helium.

30. (Original) The apparatus of claim 27 wherein the first quantity of the first type of ions comprises no greater than approximately $1 \times 10^{16} \text{ cm}^{-2}$ of hydrogen ions and the second quantity of the second type of ions comprises no greater than $1 \times 10^{16} \text{ cm}^{-2}$ of helium ions.

31. (Original) The apparatus of claim 27 wherein the first means further comprises an energy range of approximately 40 KeV and the second means comprises an energy range of approximately 50 KeV.

32. (Original) The apparatus of claim 27 wherein the third means comprises an ambient temperature of approximately 440 degrees C.

33. (Original) The apparatus of claim 27 further comprising a fourth means for separating a donor wafer, comprising the oxide layer, from a handle wafer, comprising a semiconductor substrate.

34. (Original) The apparatus of claim 31 wherein the fourth means comprises a thermal cleave process if the third means comprises an ambient temperature of at least approximately 440 degrees C.

35. (Original) The apparatus of claim 31 wherein the fourth means comprises a mechanical cleave process if the third means comprises an ambient temperature of no greater than approximately 430 degrees C.